

## SYNCHRONIZING AND CONVERTING THE SIZE OF DATA FRAMES

### Abstract of the Disclosure

A data frame of a first size may be converted to a data frame of a second size in a relatively seamless  
5 fashion in a gear box. The data may be demultiplexed into blocks of the first size and stored in a register. The data may be read out of the register at a second data size and multiplexed to form an output data frame of the second size. By controlling the reading and writing at different  
10 frequencies, the blocks of the first size may be converted to blocks of the second size which correspond to the output data frame size. After the frame size has been converted, the converted data may be aligned in a frame synchronizer by locating synchronization headers within the data. This  
15 may be done by moving a window along the data to determine whether or not valid synchronization headers are located in expected positions in a series of successive data frames. In one embodiment, a receiver for a fiber optic network may include a physical layer device that receives serial or  
20 parallel data from a fiber optic link and provides it to a physical coding sublayer receive that includes the gear box and the frame synchronizer. The physical coding sublayer receive may be coupled through a parallel interface to a receive media access control.